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**BUREAU OF SHIPS GROUP**

**TECHNICAL INSPECTION REPORT**

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366720

Classification (~~Secret~~) (Changed to CONFIDENTIAL)  
By Authority of Joint Chiefs of Staff (Action 15 Apr 49)  
By [Signature] Date 9 May 51  
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U. S. GOVERNMENT AGENCY **OPERATION CROSSROADS.**  
FROM DDC. OTHER QUALIFIED PERSONNEL REQUEST THROUGH

**U.S.S. LAMSON (DD367)**

Director  
Defense Atomic Support Agency  
Washington D. C. 20301

**TEST ABLE [u]**

(11) 1947, (12) 23P.  
(14) XRD-34

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**OPERATION CROSSROADS**

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**NOV 24 1965**

**GROUP-3**  
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**BUREAU OF SHIPS GROUP  
TECHNICAL INSPECTION REPORT**

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By *John R. Kelly, Capt* Date *7 Feb 50* \_\_\_\_\_  
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USS LAMSON (DD 367)

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ATOMIC ENERGY ACT OF 1946

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**USS LAMSON (DD 367)**

U.S.S. LAMSON (DD 367)

SHIP CHARACTERISTICS

Building Yard: Bath Iron Works Corporation.

Commissioned: 21 October 1936.

HULL

Length Overall: 341 feet 4 inches.

Length on Waterline: 334 feet 0 inches.

Beam (extreme): 35 feet 5 inches.

Depth (molded at side, to main deck, amidships);  
19 feet 7 7/8 inches.

Drafts at time of test: Fwd. 12 feet 0 inches.

Aft. 12 feet 0 inches.

Standard displacement: 1,480 tons.

Displacement at time of test: 2,045 tons.

MAIN PROPULSION PLANT

Main Engines: Two sets of G.E. turbines, one  
per shaft.

Reduction Gears: Two sets of De-Laval double re-  
duction, one per turbine set.

Main Condensers: Two are installed in ship.

Boilers: Four Boilers are installed in ship.

Babcock and Wilcox, and Foster Wheeler. 400  
psi gauge - 700° F.

Propellers: Two are installed.

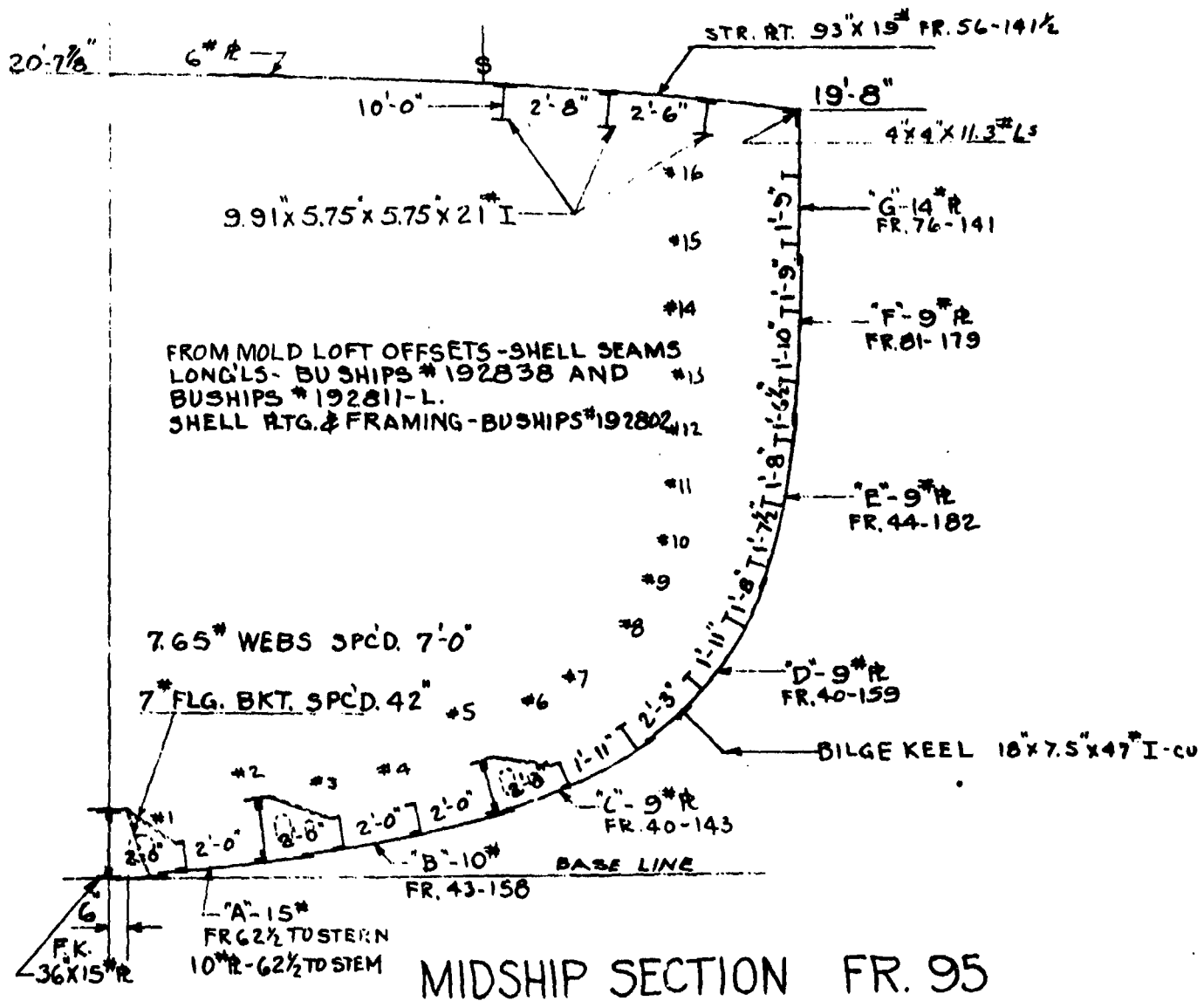
Main Shafts: Two are installed.

Ships Service Generators: Two 132 KW. A.C. and  
two 40 KW. - D.C sets are installed.

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USS LAMSON (DD 367)

LONG 1 - 9" x 2 1/2" x 13.4" C  
 " 2-19" x 7" R 3" x 2" x 4.1" L  
 " 3-4 - 9" x 2 1/2" x 13.4" C  
 " 5 - 17" x 7" R 3" x 2" x 4.1" L  
 " 6 - 8" x 2 1/4" x 2 1/4" x 11.5" C  
 " 7 - 8" x 3.06" x 7.07" T  
 " 8 THRU 11 - 6" x 3.06" x 7.07" T  
 " 12-13-14 - 5" x 2.69" x 4.48" T  
 " 15-16 - 5" x 1 1/4" x 1 1/4" x 6.7" C  
 V.C.K 21" x 12" R DBLS. 3" x 3" x 6.1" L TAB



SCALE  $\frac{1}{4}" = 1'-0"$   
TEST A

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**PAGE 4 OF 23**

**U.S.S. LAMSON (DD 367)**

## TECHNICAL INSPECTION REPORT

### OVERALL SUMMARY

#### I. Target Condition After Test.

##### (a) Drafts after test; list; general areas of flooding, sources.

The LAMSON sank as a result of Test A. The time of sinking is not definitely known, but it is known that she disappeared sometime between the departure of the Technical Observer in PBM Charlie at 1400 and the arrival of the Director of Ship Material in his tour of the target array at 1700 on "A" day.

From the LAMSON's manner of capsizing (photo page 13) it is probable that the principal flooding source is somewhere on the unexplored starboard shell plating, amidships and near the test waterline. Divers report that the starboard garboard strake and port side bottom plating are intact along most of the ship's length.

##### (b) Structural Damage.

It appears that the stern was most badly damaged by the blast. This damage was undoubtedly aggravated by the manner in which the LAMSON pivoted on her stern when grounding as described in the underwater reports. As shown in photo page 16, by the discontinuity of the port sheer strake, the portion of the stern aft of frame 178 has twisted counterclockwise until the sheer strakes are separated by about three feet. This rotation appears to pivot about the centerline of the deck.

There is a large dent in the underwater shell (photo page 18) extending from the port propeller guard to the centerline. Divers report a wrinkle of 18 inch depth in the main deck plating at the stern.

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USS LAMSON (DD367)

Divers report a wrinkle of varying depth and width in the port side shell plating. It is 2.5 feet deep and 18 inches wide at frame 170 and tapers to nothing at frame 130. (photos page 16, page 21, and page 23). The port sheer strake appears crushed between frame 70 and 80 (see photo page 13).

There exists also the probable structural damage to the starboard side of the vessel as mentioned previously in the report. Since the ship is resting on the bottom on her starboard side, no examinations of this structure were possible.

All light structure topside appears to be badly damaged. One of the diver's impression was that some of the damage to the bridge may have been caused by grounding. The divers report both stacks are missing (photo page 12) and the foremast is bent aft 90 degrees at the signal bridge level. The foremast in photo, page 11, seem to be bent through an angle of 170 degrees.

The structure around the forward director is slightly damaged. The ship forward of the bridge is apparently intact except for the torn gun bucklers. At frame 70 a Z door and frame are blown out. The port side of the deck house aft of mount 2 is opened up top and bottom for a short distance fore and aft.

The torpedo tubes are apparently intact. Only one torpedo is in the tubes and it is broken and hanging there.

There are a large number of depth charges around the bottom aft. The special weapon NORD 5130 was not in its chocks on the stern and could not be located. The depth charge racks pictured in photo page 15 are torn and twisted almost beyond recognition.

(c) Other Damage.

Machinery and electrical damage were unobserved.

II. Forces Evidenced and Effects Noted.

(a) Heat.

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USS LAMSON (DD367)



Unknown. Frame numbers and nameplates are still visible on the port side.

(b) Fires and Explosions.

Small fire in superstructure (See photo page 12).

(c) Shock.

Both stacks have been carried away, the foremast cannot be seen and much of the light superstructure appears to be missing (photo page 12). Her guns, however, can be seen at maximum elevation and are apparently undamaged.

(d) Pressure.

No damage attributed to this cause.

III. Results of Test on Target.

(a) Effect on Propulsion and ship control.

Unknown.

(b) Effect on gunnery and fire control.

The only source of information is photo page 12. The guns are visible at maximum elevation and apparently intact. The gun director is still in place.

(c) Effect on Watertight Integrity and Stability.

The explosion destroyed the vessel's watertight integrity and stability.

(d) Effect on Personnel and Habitability.

Unknown prior to time of capsizing and sinking.

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USS LAMSON (DD367)

(e) Total Effect on Fighting Efficiency.

Complete destruction.

IV. General Summary of Observer's Impressions and Conclusions.

Photographs of the burst taken from towers and planes, after-burst photographs of the array taken by PBM Charlie, the reports of the technical observer in PBM Charlie, the underwater photographs and the divers' report comprise the total source of information concerning this ship. A study of this information has been made and, although certain details were unobtained, the results are compiled here in an attempt to give the story of the ship from the time of explosion until she sank.

The explosion took place approximately 700 yards from and slightly forward of the beam of the LAMSON. Photo page 11 shows the LAMSON twelve seconds after the burst. The bridge structure, while erect, appears badly smashed. The guns are visible but the stacks, mast and light topside superstructure seem to have been swept away by the air blast. Photo page 12, the last tower picture of the LAMSON, was taken 5 minutes 42 seconds after burst. This gives another view of air blast damage and shows the LAMSON still erect.

When PBM Charlie reached the lagoon at approximately 0940 the LAMSON was lying over on her starboard side with her bridge structure under water (See photo page 13), and the port side of her bottom above the surface (See photo page 14). A large oil slick can be seen trailing to leeward. The LAMSON was sighted by the RECLAIMER when she re-entered the lagoon about 1300, and was still floating with her bottom barely visible when PBM Charlie left the lagoon at 1400. It has not been possible to determine the exact time the LAMSON disappeared. At approximately 1700 when the RECLAIMER made a quick tour of the lagoon there was no trace of the LAMSON.

The divers when making their underwater inspections found the wrecked LAMSON lying on her starboard side. The stern was

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USS LAMSON (DD367)

lying in a hole which makes it appear that the ship went down stern first, pivoted around and ended up heading southwest on the bottom.

#### V. Preliminary Recommendations.

Modification of design of superstructure, mast, and stack should be considered.

#### VI. Pre-test Statistics.

(a) Instructions for loading the vessel specified the following:

ITEM	LOADING
Fuel Oil	50%
Diesel Oil	50%
Ammunition	50%
Potable and Reserve Feed Water	95%
Salt Water Ballast	95%

Details of the actual quantities of the various items aboard are included in Report 7, Stability Inspection Report, submitted by the ship's force in accordance with "Instructions to Target Vessels for Tests and Observations by Ship's Force" issued by the Director of Ship Material. This report is available for inspection in the Bureau of Ships Crossroads Files.

The LAMSON at time of burst floated at drafts of 12' 0" forward and 12' 0" aft. She had a list of four degrees to starboard.

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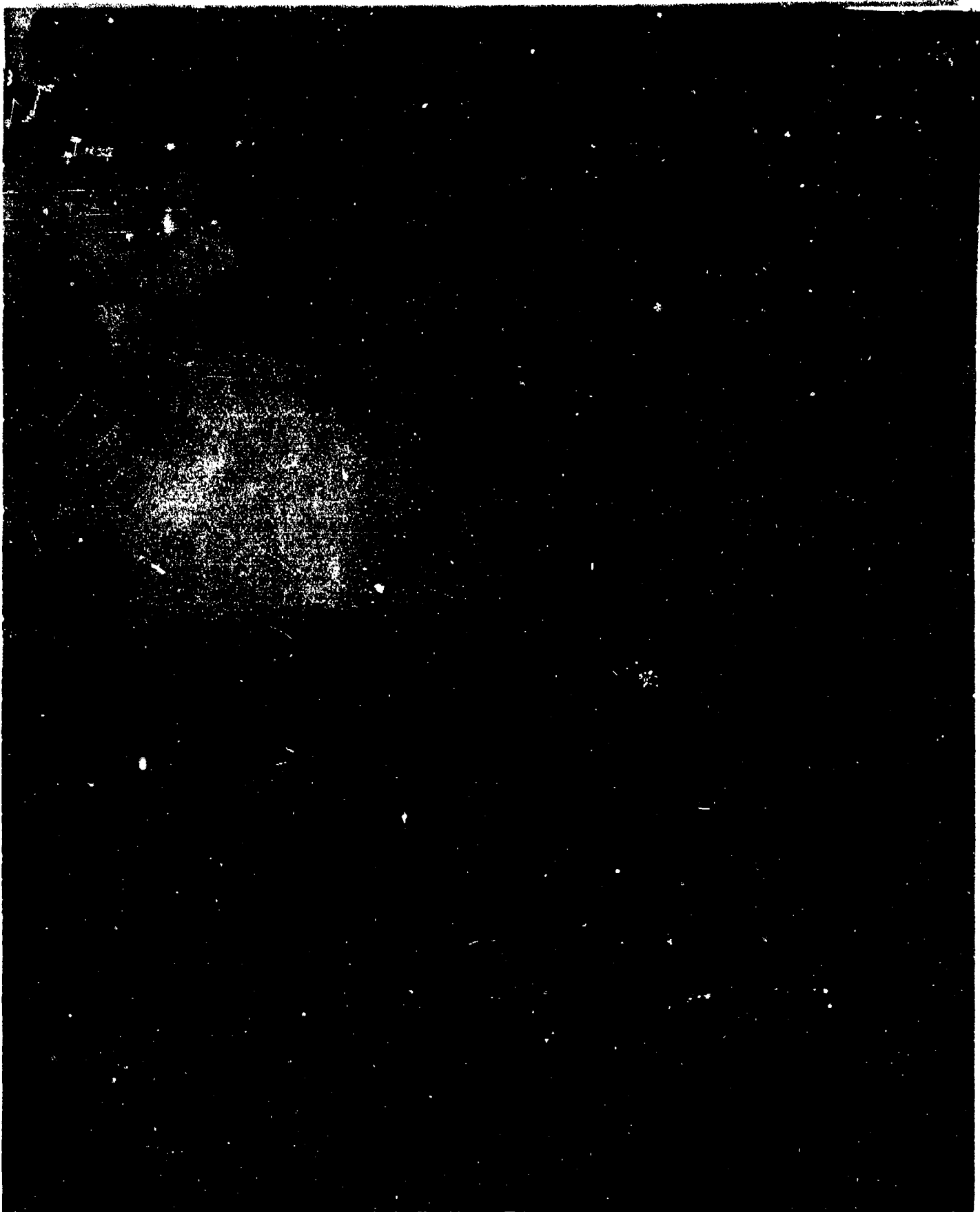
USS LAMSON (DD367)

PHOTOGRAPHS

TEST ABLE

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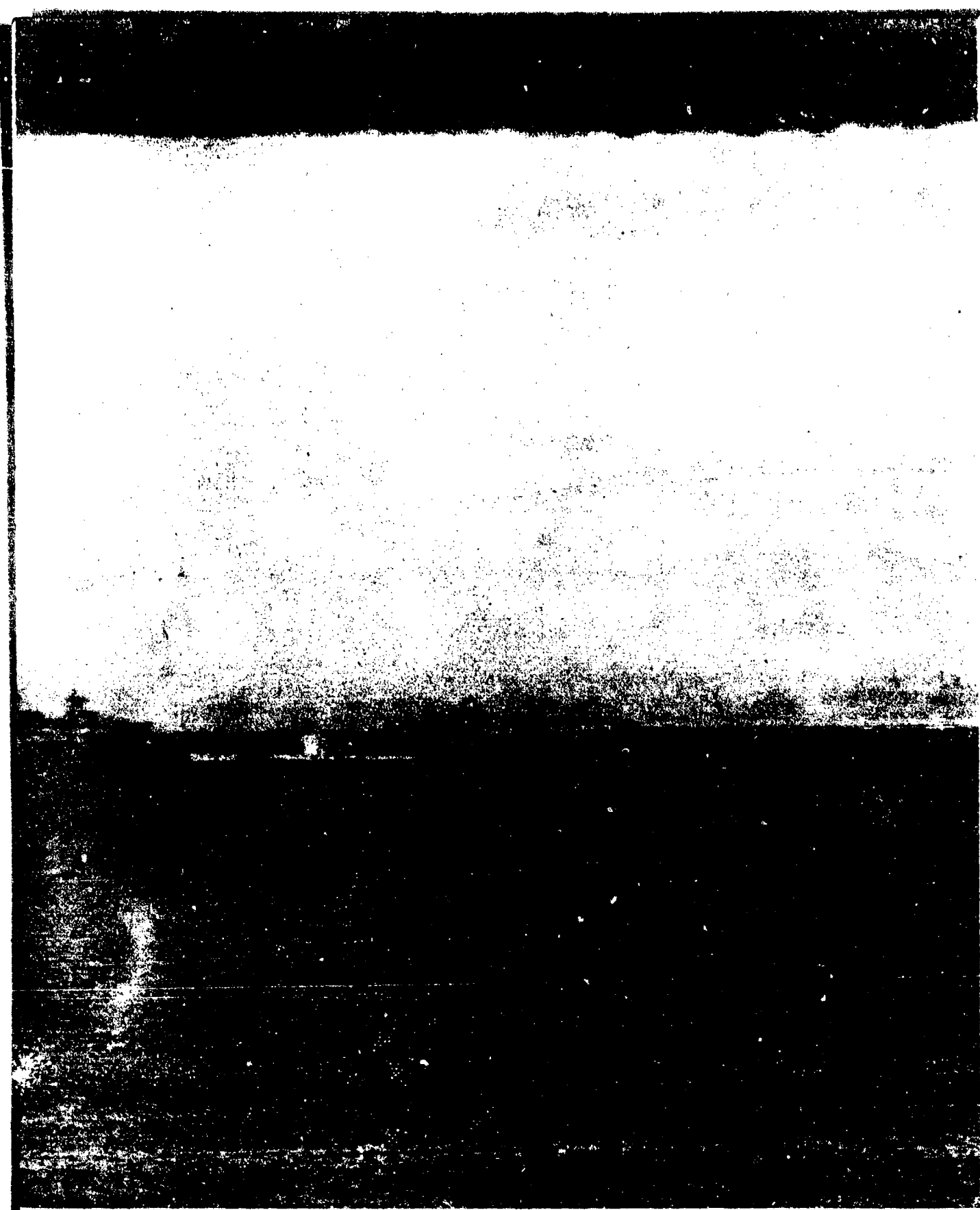
DA-CR-T2-11-11 (-11) 1 July 46-24"/Bikini/Secret. Print #4. Tower view of LAMSON, taken 12 seconds after burst. Mast and stacks are missing.

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DA-CR-T1-1/12/ (-11) 1 July 46/24"/Bikini/Secret. Print #114. Last tower view of LAMSON taken 5 minutes 42 seconds after burst. Superstructure appears smashed. Mast and stacks are missing.

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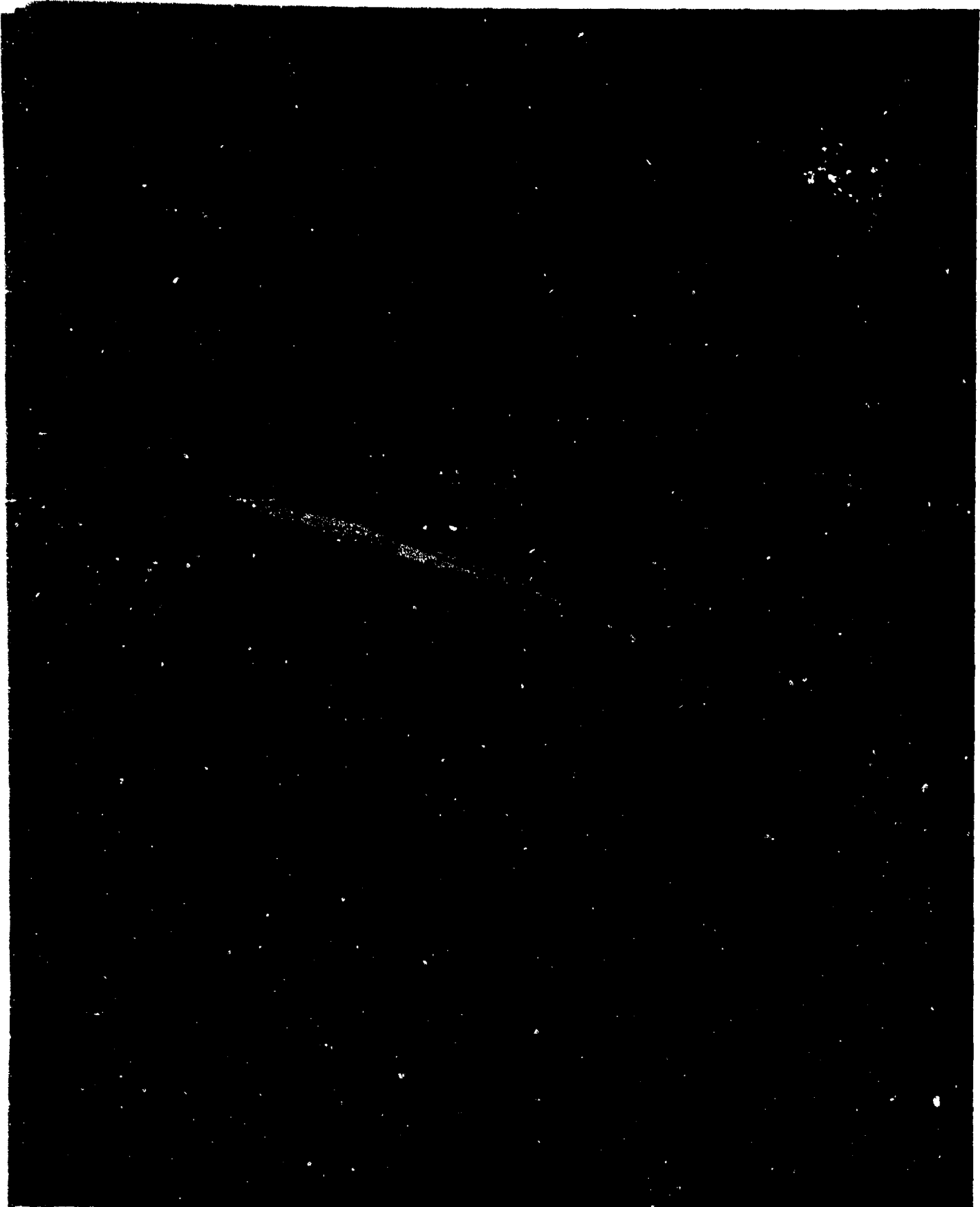
AA-1 July 46-F-56 8 1/4" obl. Print #29. LAMSON on her starboard side. Shell plating appears crushed in between frames 70 and 80. Bubbles are rising up off stern.

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DA-CR-231-560 (-11) 1 July 46/8 1/4"/Bikini. Print #42. Bottom of LAMSON  
apparently intact.

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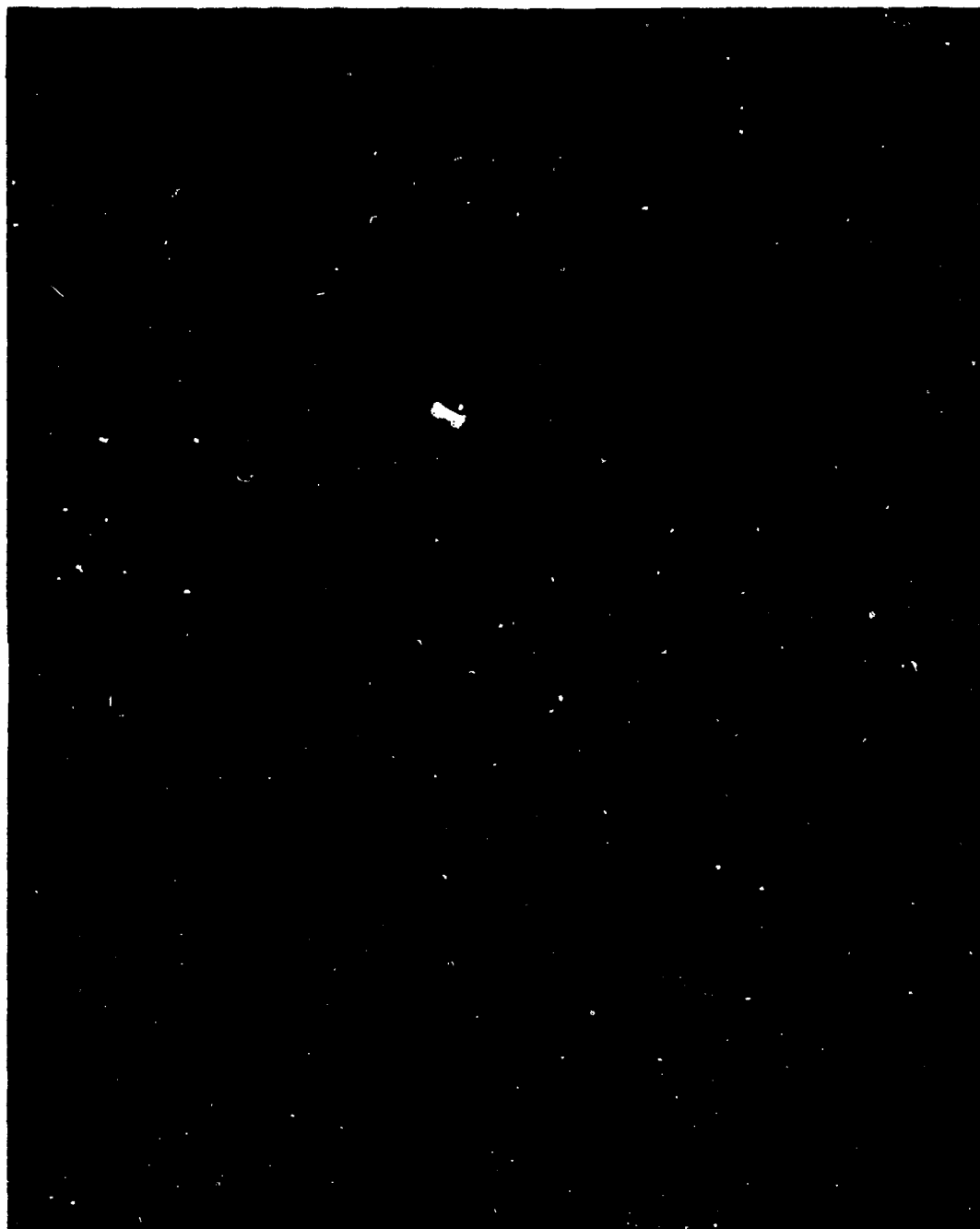


CR-5-S-30-1 (Underwater). Depth charge racks on stern of LAMSON.

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CR-5-S-30-15 (Underwater). Transverse shear occurring at frame 178. Picture taken of LAMSON resting on her starboard side. Note diver standing by propeller guard. White lines back of diver are parallel to designed waterline and are spaced at one foot intervals.

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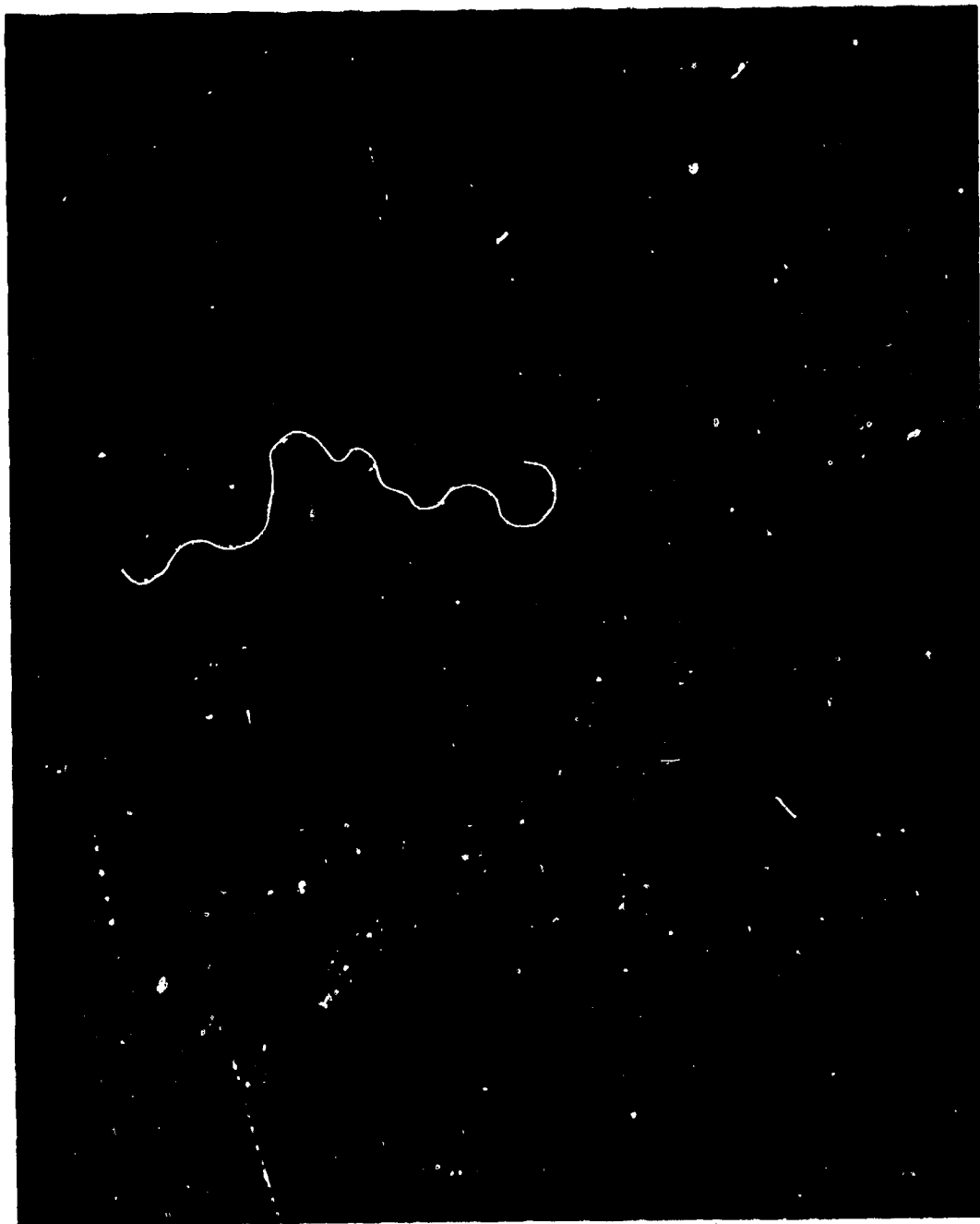
CR-5-S-30-20 (Underwater). Stern view of LAMSON.

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CR-5-S-31-1 (Underwater). Port propeller, strut and guard on LAMSON.  
Note indentation of shell plate.

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CR-5-S-31-12 (Underwater). Port side of LAMSON at frame 100.

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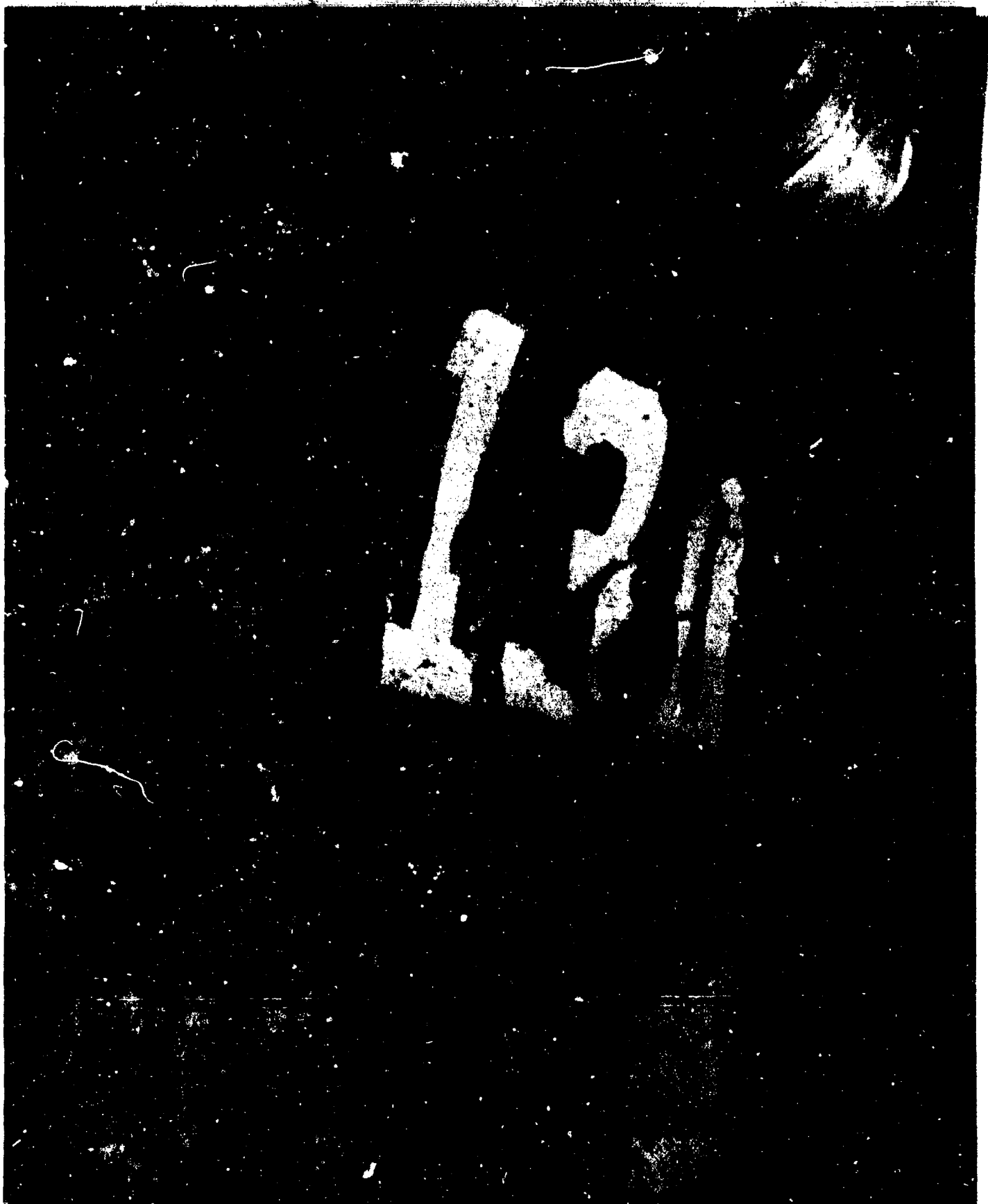
CR-5-S-31-14 (Underwater). Ventilator and ready service box on main deck of LAMSON frame 105.

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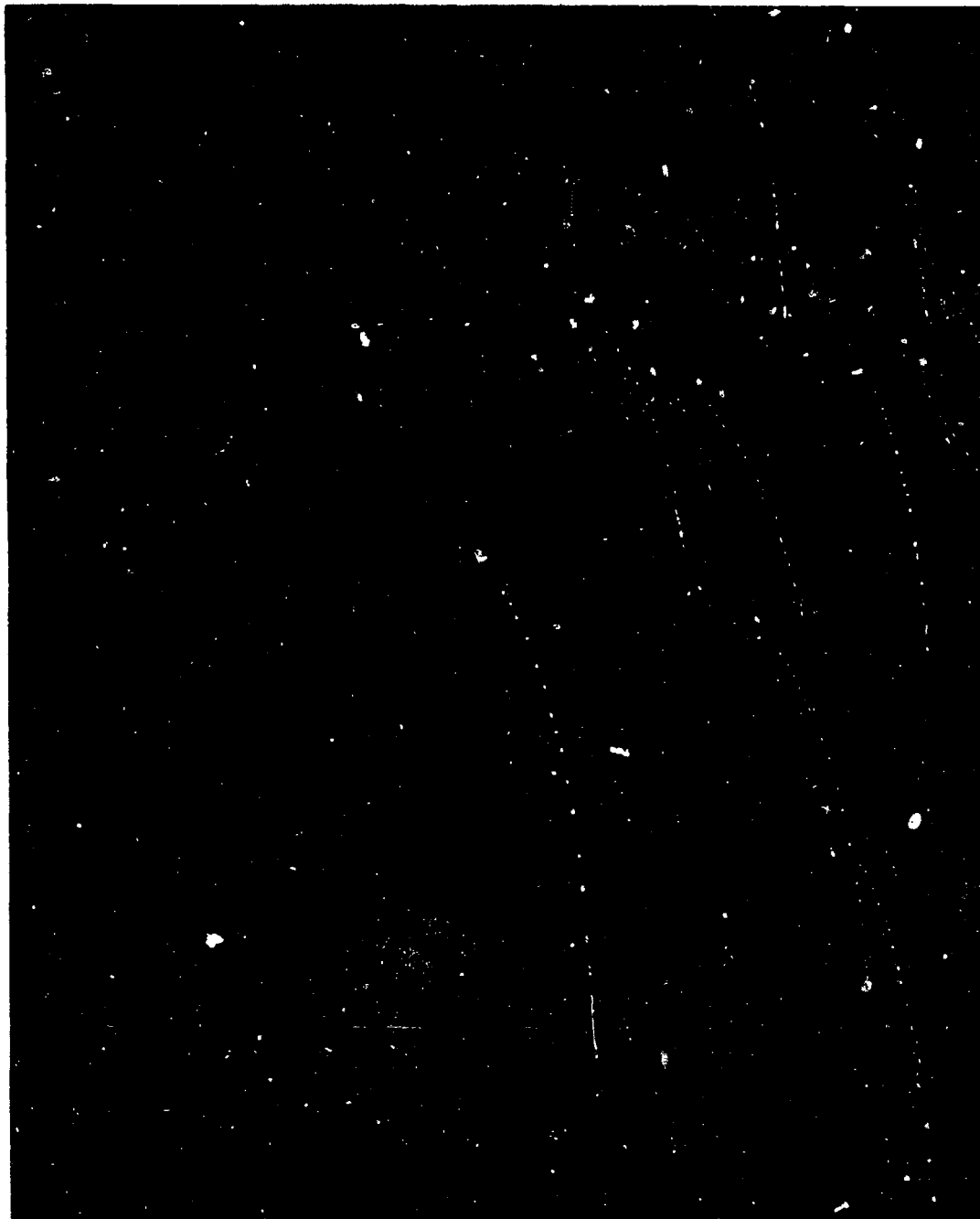
CR-5-S-31-15 (Underwater). Beginning of wrinkle on port side of LAMSON at frame 130.

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CR-5-S-31-17 (Underwater). Frame 140, port side, main deck of LAMSON. Main deck life line in foreground; floater net stowage in background.

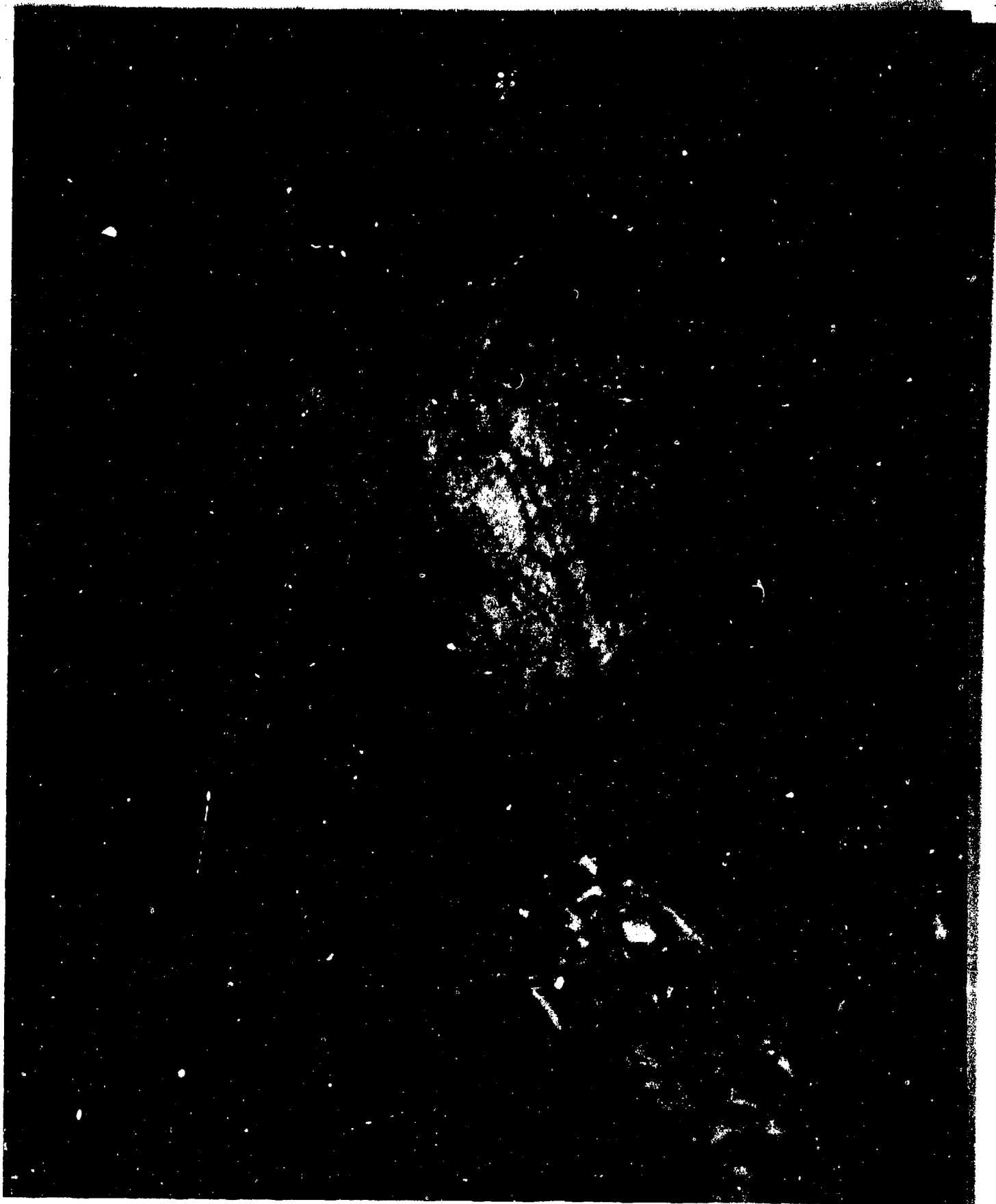
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CR-5-S-31-20 (Underwater). Wrinkling on port side of LAMSON frame 157.  
Note chock and breakwater shield.

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By Authority of Joint Chiefs of Staff (Action 15 Apr 49)  
By *John D. ...* Date *24 April 1949*  
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**Defense Special Weapons Agency**  
6801 Telegraph Road  
Alexandria, Virginia 22310-3398

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4 April 1997

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